

WE CLAIM:

1. A process for manufacturing a semiconductor integrated circuit device, comprising the steps of:

(a) forming a first wiring layer over a main surface of a semiconductor substrate;

(b) forming a first insulating film on the first wiring layer;

(c) forming a second wiring layer which is comprised of first conductor film and a first film formed over the first conductor film over the first insulating film;

(d) forming a second insulating film on the second wiring layer,

(e) the step of forming a first etching mask having openings on the second insulating film,

(f) forming a first contact hole on the second wiring layer in the second insulating film and a second contact hole on the first wiring layer in the first and the second insulating films by etching method through the openings of the first etching mask, wherein the etching ratio of the first film is smaller than the etching ratio of the first and second insulating films by the etching method.

2. A process for manufacturing a semiconductor integrated circuit device according to claim 1, further comprising:

(g) ~~the step of~~ etching the first film exposed in the bottom of the first contact hole.

3. A process for manufacturing a semiconductor integrated circuit device according to claim 1, wherein:

the step (c) further comprising the steps of:

(g) forming the first conductor film over the first insulating film,

(h) forming the first film over the first conductor film,

(i) forming the second etching mask on the first film,

(j) etching the first film and the first conductor film at the area uncovered with the second etching mask.

4. A process for manufacturing a semiconductor integrated circuit device according to claim 1, wherein:

the first film is comprised of second conductor film, wherein the etching ratio of the second conductor film is smaller than the etching ratio of the first conductor film by the etching method.

5. A process for manufacturing a semiconductor circuit device according to claim 4, wherein:

the electric resistance of the first conductor film is smaller than the electric resistance of the second conductor film.

6. A process for manufacturing a semiconductor integrated circuit device according to claim 1, wherein:

tungsten is the main component of the first film.

7. A process for manufacturing a semiconductor integrated circuit device according to claim 1, further comprising the steps of:

(g) forming a electrode over the first insulating film,  
(h) forming a dielectric film on the electrode,  
before the step (c),

wherein the electrode, dielectric film, and the second wiring layer comprise an information storing capacitive element.

8. A process for manufacturing a semiconductor integrated circuit device according to claim 1, further comprising the steps of:

(g) forming second conductor film in the first contact hole and third conductor film in the second contact hole,

(h) forming a third wiring layer electrically connected with the first wiring layer through the second conductor film and a fourth wiring layer electrically connected with the second wiring layer through the third conductor film over the second insulating film.

Add B<sub>1</sub>

Add E<sub>1</sub>